

REMARKS

This Amendment is being filed in response to the Office Action mailed from the U.S. Patent and Trademark Office on December 1, 2004, in which claims 1-5 are withdrawn from consideration and claims 6-47 were rejected. With this Amendment, claims 1-5, 24 and 46 are cancelled, claims 6-21 and 25-28 are amended, and new claims 48-54 are added. As such, Applicants respectfully request reconsideration and allowance of pending claims 6-23, 25-45 and 47-54.

The Office Action objected to claims 7-21 and 24-27 regarding informalities. The Office Action rejected the claims 6-10, 12, 14-32, 34 and 36-47 under 35 U.S.C. § 103(a) as being unpatentable over WO98/43740 to in view of JP3-295185. The Office Action rejected claims 6-47 under the doctrine of double patenting over the claims of U.S. Patent No. 6,657,169.

The Office Action objected to claims 7-21 and 24-27 regarding informalities. With this Amendment, claim 24 has been cancelled and claims 7-21 and 25-27 have been amended to change the dependency from claim 1 to claim 6. Thus, the objection to claims 7-21 and 24-27 has been overcome.

The Office Action rejected the claims 6-10, 12, 14-32, 34 and 36-47 under 35 U.S.C. § 103(a) as being unpatentable over WO98/43740 to in view of JP3-295185. The Office Action states:

The claims differ from WO98/43740 in calling for the second heat source to be below the first heat source. But locating a second electric heater below a first electric heater such that one electric heater extends beyond another to uniformly heat a block is well known in the art. JP3-295185, for example, discloses a first electric heater 10 and second electric heater in a vertical stack, each heater insulated from the other. See Fig. 1-3 and the abstract. As best seen in Fig. 2 and 4, the pattern of electric heater 10 does not overlap the pattern of electric heater 11. As a result, areas that are not directly adjacent one electric heater are directly adjacent the other heater. By filling the gaps formed by one electric heater's profile with a second, vertically-spaced electric heater, the block is more uniformly heated as compared to a single heater. In view of JP3-295185, it would have been obvious to one of ordinary skill in the art to provide a second heater disposed below and extend beyond the first heater in the previously described apparatus to fill the gaps formed by one electric heater's profile with a

second, vertically-spaced electric heater, the block is more uniformly heated as compared to a single heater.

(Office Action mailed 12/1/04, pp. 4-5)(emphasis added).

“Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art.” M.P.E.P. 2143.01. “The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art.” *In re Kotzab*, 217 F.3d 1365, 1370, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000). See also *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988); *In re Lee*, 277 F.3d 1338, 1342-44, 61 U.S.P.Q.2d 1430, 1433-44 (Fed. Cir. 2002); *In re Jones*, 958 F.2d 347, 21 U.S.P.Q.2d 1941 (Fed. Cir. 1992); M.P.E.P. 2143.01.

With the Amendment, Applicant has amended independent claims 6 and 28 to claim an apparatus for thermally cycling samples of biological material comprising **a second heat source located below the first heat source, wherein the second heat source is radially outside the first heat source.**

None of the cited prior art references, alone or in combination, disclose, teach or suggest an apparatus for thermally cycling samples of biological material comprising **a second heat source located below the first heat source, wherein the second heat source is radially outside the first heat source.** WO98/43740 does not disclose or suggest a second heat source below a first heat source. Applicant agrees with the Office Action statement that the claims 6-47 of the present invention “differ from WO98/43740 in calling for the second heat source to be below the first heat source.” (Office Action mailed 12/1/04, p. 4).

The additional cited reference of JP3-295185 does not cure or offer a suggestion on how to overcome the deficiencies of WO98/43740. The Office Action described JP3-295185 as follows: “As best seen in Fig. 2 and 4, the pattern of electric heater 10 does not overlap the pattern of electric heater 11.” (Office Action mailed 12/1/04, p. 4). Further, the Abstract of JP3-295185 states “both heating section patterns 10a, 11a are not overlapped.” While the heating

patterns disclosed in JP3-295185 do not overlap each other, the first heating element 10 and the second heating element 11 do overlap radially. As shown in FIGS. 1-4 of JP3-295185, the first heating element 10 and the second heating element 11 are located in the same area radially along the heating element. Thus, JP3-295185 does not disclose or suggest **the second heat source is radially outside the first heat source**.

With this Amendment, Applicant's amended independent claims 6 and 28 to recite an apparatus for thermally cycling samples of biological material comprising a second heat source located below the first heat source, wherein the second heat source is radially outside the first heat source. No new matter is added with this Amendment. Support for this Amendment can be found throughout Applicant's specification as filed, and specifically on pages 15-18 and in FIG. 18.

WO98/43740, JP3-295185 or any other cited reference, alone or in combination, do not disclose, teach or suggest an apparatus for thermally cycling samples of biological material comprising **a second heat source located below the first heat source, wherein the second heat source is radially outside the first heat source**. Applicant respectfully requests reconsideration and allowance of pending claims 6-23, 25-45 and 47-54.

The Office Action rejected claims 6-47 are under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-38 of U.S. Patent No. 6,657,169. The Office Action states that although the conflicting claims are not identical, they are not patentably distinct from each other.

While not acquiescing to the double patenting rejection, Applicant submits that a terminal disclaimer will be filed upon notification of allowable claims in the present application.

With this Amendment, Applicant has added new claims 48-54. New claims 48-54 recite the lower heat source located under the upper heat source and radially outside the upper heat source. Support for new claims 48-54 can be found throughout Applicant's specification as filed, and specifically on pages 15-18 and in FIG. 18. No new matter has been added. Applicant believes new claims 48-54 are allowable over the prior art of record, and Applicant respectfully requests consideration and allowance of new claims 48-54.

With this Amendment, Applicants have made an earnest effort to respond to all issues raised in the Office Action of December 1, 2004, and to place all pending claims in condition for allowance. No Amendment made was for the purpose of narrowing the scope of any claim, unless Applicant has argued herein that such amendment was made to distinguish over a particular reference or combination of references.

Applicant submits that pending claims 6-23, 25-45 and 47-54 are allowable as written and respectfully request early favorable action by the Examiner. If the Examiner believes that a telephone conversation with Applicant's attorney would expedite prosecution of this application, the Examiner is cordially invited to call the undersigned attorney of record.

Respectfully submitted,

David J. Dwyer Reg. No. 46,628
For

Date: March 1, 2005

Name: Kathleen M. Williams
Registration No.: 34,380
Customer No.: 27495
Palmer & Dodge LLP
111 Huntington Avenue
Boston, MA 02199-7613
Tel: 617-239-0100